



RESPONSIBLE CARE[®] Verification Report

ARLANXEO

June 21 -23, 2016



Chemistry Industry
Association of Canada



Responsible Care[®]
Our commitment to sustainability.

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EXECUTIVE SUMMARY

This report documents the observations and conclusions of the independent verification team tasked with conducting a Responsible Care Verification of ARLANXEO. The verification was undertaken on June 21 to June 23, 2016 and included team visits to Sarnia Ontario. This was the second Responsible Care verification completed for ARLANXEO. The last verification was completed on Oct 01, 2013 under the LANXESS company name.

As a result of the examination conducted, the verification team is of the opinion that the Responsible Care Ethic and Principles for Sustainability are guiding company decisions and actions, and that a self-healing management system is in place to drive continual improvement. The team believes that the company is capable of responding to the range of Findings Requiring Action identified during the verification - summarized below and discussed in detail in the report. The verification is complete and no further involvement is required by the verification team.

Signed: _____
Gerry Whitcombe
Verification Team Leader

Date: 22 August 2016

For more information on this or a previous Responsible Care Verification Report, please contact your local company site or the company's overall Responsible Care coordinator:

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Summary of Verification Team Observations

Findings Requiring Action

1. Build the code requirements for OC-4 ('closure, decommissioning and demolition') into appropriate project safety review checklists.
2. Worst Credible Case Scenarios (WCCS) must be communicated on a regular basis to the community (including CAP)
3. Document the Customer Management Process (Selection, prior to first shipment, ongoing management) for C4 Olefins hazardous products

Works in Progress

No works in progress were included

Improvement Opportunities

1. Revisit feasibility of electric forklifts
2. Critically review company and CAER structures and processes that inform the community about emergencies and emergency preparedness.
3. Use the Accountability Code as a discussion topic with the CAP
4. Review/audit the terms of reference for CAP (compared with the codes of practice) and measure process performance
5. Adopt the CIAC SCOPE for as one metric for community dialogue
6. Seek ways to focus on dialogue with CAP
7. Ensure there are code knowledgeable persons who assess the company's compliance to code requirements

Successful Practices

1. Use of Capstone RBMI risk-based inspection software
2. The company's commitment to maintaining seven TSSA Certificates of Authorization to perform in-house repairs and maintenance on pressure equipment.
3. The provision of Diphoterine® rinsing agent to limit the effects of chemical exposure to the skin or eye.
4. All OpTechs have attended Lambton Fire School.
5. Journey to Net Zero Waste program.
6. The company's Responsible Care Management system as described in SOP-0649.

1. Introduction

1.1 About Responsible Care Verification

As a member of the Chemistry Industry Association of Canada (CIAC), the most senior executive responsible for ARLANXEO's operations in Canada attests annually to CIAC and its peers that the company's operations conform to the expectations contained in the Responsible Care Commitments and are guided by Responsible Care Ethic and Principles for Sustainability.

The Responsible Care® Ethic and Principles for Sustainability

We dedicate ourselves, our technology and our business practices to sustainability - the betterment of society, the environment and the economy. The principles of Responsible Care® are key to our business success, and compel us to:

- work for the improvement of people's lives and the environment, while striving to do no harm;
- be accountable and responsive to the public, especially our local communities, who have the right to understand the risks and benefits of what we do;
- take preventative action to protect health and the environment;
- innovate for safer products and processes that conserve resources and provide enhanced value;
- engage with our business partners to ensure the stewardship and security of our products, services and raw materials throughout their life-cycles;
- understand and meet expectations for social responsibility;
- work with all stakeholders for public policy and standards that enhance sustainability, act to advance legal requirements and meet or exceed their letter and spirit;
- promote awareness of Responsible Care, and inspire others to commit to these principles.

As an element of this commitment to Responsible Care, ARLANXEO must, every three years, participate in an external verification intended to:

- Provide the Executive Contact with an external perspective when assessing if the company is indeed meeting the intent of the Responsible Care Commitments, along with advice on areas that may require attention;
- Identify opportunities for assisting the company when benchmarking its own practices and performance against those of its peers, thus supporting continual improvement;
- Contribute to the credibility of Responsible Care amongst company personnel and stakeholders, as well as the stakeholders of the broader industry;
- Identify successful company practices that can be promoted to peers in the CIAC membership; and
- Support the identification of areas of common weakness so that collective tools and guidance can be developed to improve performance in those areas across the CIAC membership.

Verification is conducted according to a common protocol, developed by the association's members and others, including several critics of the chemical industry. The verification is conducted by a team consisting of:

- Knowledgeable industry experts with experience in Responsible Care;
- A representative of the public at large (usually with a public interest background and with experience in Responsible Care gained from serving on the CIAC's National Advisory Panel) and
- One or more representatives of the local communities where the company's facilities are located.

Once completed, the Verification Report is made publicly available through the CIAC website (www.canadianchemistry.ca). ARLANXEO is also expected to share the report with interested persons in its communities and other stakeholders as part of its ongoing dialogue processes.

Additional information on Responsible Care and/or the verification process can be found at the CIAC website www.canadianchemistry.ca, or by contacting glaurin@canadianchemistry.ca or (613) 237-6215 extension 233.

1.2 About ARLANXEO

ARLANXEO is a recently formed (April 2016) 50/50 joint venture between LANXESS (Cologne, Germany) and Saudi Aramco (Dhahran, Saudi Arabia). The new company is headquartered in Maastricht, Netherlands.

The company produces synthetic rubber products under two business organizations, High Performance Elastomers (HPE) and Tire & Specialty Rubbers (TSR). It has about 3,800 worldwide employees working in 20 locations in nine countries around the globe.

The manufacturing site in Sarnia is comprised of a Butyl Rubber manufacturing facility as well as a C₄ Olefins (1,3-butadiene, Raffinate-2) operation, both operated 24 hours per day, 7 days per week. There is also a research facility located in London Ontario near the University of Western Ontario.

There are about 370 employees, with 350 at the Sarnia site and 20 in London. Of the Sarnia employees about 200 are day workers and 150 are shift workers. There are, typically, about 150-200 contractors on site.

1.3 About This Verification

The verification of ARLANXEO was conducted on June 21 to June 23, 2016 and included team visits to Sarnia. During the course of the verification, the team had the opportunity to interact with a wide range of company personnel, as well as stakeholders external to the company. Attachment 2 contains a list of those individuals interviewed and their affiliations.

This was the second Responsible Care verification completed for ARLANXEO. The last verification was completed on Oct 01, 2013 under the LANXESS company name.

The verification team was comprised of the following individuals.

Name	Affiliation	Representing
Gerry Whitcombe	CIAC Verifier	Industry (team leader)
Kris Lee	CIAC Verifier	Public-At-Large
Marc Guilbeault	Community Verifier	Sarnia Community

2. Team Observations Concerning the Responsible Care Commitments (Codes and benchmark and Collective Expectations)

During the verification of ARLANXEO, the verification team looked for evidence that the company was addressing the expectations documented in the Responsible Care Commitments (152 code elements plus 28 benchmark and collective expectations).

In communicating its observations, the verification team will make repeated reference to the following categories of observations:

1. **Findings Requiring Action** document instances where the verification team observes specific company actions (or the absence of company actions) which are inconsistent with the detailed codes and benchmark and collective expectations contained in the Responsible Care Commitments. Where possible, the verification team will communicate, based on their experience and judgment, why it is inconsistent and how the observation relates back to a possible gap in the expected management system and / or the ethic and principles underpinning company actions. The team may also provide advice on how the situation might be responded to.
2. **Works in Progress** document instances where the verification team has observed the company self-initiating actions in response to identified gaps and deficiency arising from other internal or external audit and review activities, or where the company has self-initiated important improvement opportunities.
3. **Successful Practices** document instances where the team believes the company has taken actions that strongly support sustained excellence in performance, and which should be communicated throughout the CIAC membership.
4. **Improvement opportunities** identify instances where the verification team has observed company actions and decision making as being largely consistent with the expectations detailed in the Responsible Care Commitments, but for which the team is of the opinion that the company could support further improvement by considering alternate or additional benchmarks when undertaking its planning and decision making.

The company is guided by its Responsible Care Management System Manual (SOP-0649) referred to as RCMSM in this report.

The verification team's observations of how the company has addressed the Responsible Care Commitments are as follows:

2.1 Team Observations Concerning Operations Code

2.1.1 Design and Construction of Facilities and Equipment

The company sufficiently meets code implementation expectations for this area via its process engineering work flow comprised of a three component stage gate (Front End Loading, FEL 1, 2 & 3).

Notwithstanding the above, while investigating code OC-4 (specifically: *"incorporates features which will minimize adverse effects on people, property and the environment which could remain or develop after closure, decommissioning or demolition."*) the team observed that these provisions were not documented.

Finding Requiring Action

- Build the code requirements for OC-4 ('closure, decommissioning and demolition') into appropriate project safety review checklists

An opportunity related to a broader understanding of this finding is included in the Management System section of this report.

2.1.2 Operations Activities

In consideration of interviews and observations about procedural controls related to 'General Considerations', 'Laboratory Practice', 'Transportation and Physical Distribution' and 'Maintenance' (discussed below) the team concludes the company sufficiently meets Responsible Care code implementation expectations.

a. General Considerations

Procedural controls are reviewed frequently by many different processes:

- Standard Operating Procedures (SOPs) are in place for all areas and are reviewed on at least a five-year frequency.
- There are two formal management reviews held each year in which all areas are reviewed including known hazards.
- Process Hazard Assessments (PHAs) are conducted on at least a five-year frequency, based on risk.
- At Joint Health and Safety Committee (JH&SC) meetings
- Through safety observations
- As the result of MOC reviews

a. Laboratory Practice

Lab procedures are included in the regular review of SOPs.

c. Transportation and Physical Distribution

Reference RCMSM 4.7.7.

The company ships two hazardous materials by rail with the bulk of its shipments being non-hazardous rubber products shipped by both rail and truck. Transportation routes are reviewed regularly in bi-annual management reviews.

Outbound rubber products and certain inbound materials are stored in two large on-site warehouses. The team toured the facilities and found them to be well maintained with a high level of housekeeping. It has been several years since the company reviewed its use of fueled forklifts and advances in the technology associated with electric forklifts may warrant a fresh look.

Improvement Opportunity

- Revisit feasibility of electric forklifts

d. Maintenance

Reference RCMSM 4.7.1 & 4.7.2

The company has a sound preventive maintenance program with adequate in-house maintenance employees augmented by maintenance contractors.

The company uses a Risked Based Maintenance Inspection (RBMI) program and a flexible SAP bolt-on scheduling tool (Capstone) is used to keep on top of priorities often dictated by the reality of equipment performance. There is a 'bad actors' program that identifies certain equipment for special attention. Plant reliability is very good.

Site personnel are alone in the Sarnia Area to have Ontario Technical Standards and Safety Authority (TSSA) certificates related to pressure equipment.

Successful Practice

- Use of Capstone RBMI risk-based inspection software
- The company's commitment to maintaining seven TSSA Certificates of Authorization to perform in-house repairs and maintenance on pressure equipment.

2.1.3 Safety and Security

a. Occupational Health and Safety

The company is adequately covered by OH&S standards and procedures (RCMSM 4.7.1).

Safety performance has improved significantly in the last several years and a new safety observation program (Xact) has been put in place. This program uses photos to highlight safety before and after conditions to bring improvement forward in a structured way.

A significant work in progress from the previous verification, the olefins loading rack, is nearing completion and is an important improvement that should help in ongoing safety improvement.

The company undertook a program to enhance housekeeping at its butyl facility and has made impressive and noticeable improvements in keeping on top of rubber spills. This is a very difficult (but non-hazardous) material that behaves like chewing gum when it finds its way to the floor.

The company has begun providing a commercial product (Diphoterine®) for rinsing the skin or eye of employees who have come in contact with acids, alkalis, oxidizing agents, reducing agents, alkylating or chelating agents and solvents. Quick application of the material limits chemical reactions to the skin or eye and yields a substantially improved outcome compared to rinsing with water alone.

Successful Practice

- The provision of Diphoterine® rinsing agent to limit the effects of chemical exposure to the skin or eye.

b. Process Safety Management

Reference RCMSM 4.7.2.

Process safety management (PSM) is defined and supported at the company level and implemented at the sites. A strong global audit process and compliance check process is in place. Process Hazard Analyses (PHAs) are scheduled every five years and a modified process is currently being introduced to the facilities. Due to this implementation PHAs are being caught up to date on a prioritization of hazard/risk. The changes being introduced include a modified Process Safety Compendium that includes an enhanced hazard/risk matrix (currently a 6x6 matrix, upgraded from the former 4x4 matrix). PHAs include plant tours for participants.

The Butyl plant is endeavouring to bring PSM to the plant floor and PSM measures are in place (leading indicators - e.g. completion of MOC; lagging indicators - e.g. Process Safety incidents). As mentioned earlier the Bad Actor process brings maintenance and plant engineering people together to resolve issues involving recurring equipment issues or breakdown.

c. Emergency Management

The company has a comprehensive and strong emergency management system (RCMSM 4.7.10).

There is Fire Captain 24/7 coverage, all operators have had, as a shift group, five day Lambton College fire training and have been trained for technical emergency response scenarios such as confined space rescue. The company provides emergency services to some local industrial neighbours.

Communication with near neighbours about emergencies is accomplished through a combination of an internal notification system and the local Sarnia area MyCNN text alerting system. The company has gone door to door with the local **First Nations** business park clients with information about its operations including worst credible case scenarios (WCCS). They have attempted the same with a local chemical manufacturer but have not had the success they had hoped for.

In light of a recent local emergency situation (with an apparent public communication breakdown) and a newspaper article (about Sarnia's CAER communications strategies/status) the team challenged the company to critically review all internal and external aspects (including assumptions) about the structure and processes used to communicate about emergencies and emergency preparedness to Sarnia residents (both company and CAER).

Successful Practice

- All OpTechs have attended Lambton Fire School.

Improvement Opportunity

- Critically review company and CAER structures and processes that inform the community about emergencies and emergency preparedness.

d. Malicious Intent

Reference RCMSM 4.7.5. This area was not specifically reviewed during the verification.

e. Critical Infrastructure/Business Continuity

This area was not specifically reviewed during the verification.

f. Incident Reporting and Investigation

Reference RCMSM 4.8. This area was not specifically reviewed during the verification.

2.1.4 Environmental Protection

The company fully meets Responsible Care code implementation expectations for this area (RCMSM 4.7.3 and RC14001:2004 certification).

a. Emissions and Waste Reduction

The company has Volatile Organic Carbon (VOC), Greenhouse Gas (GHG) and certain priority chemical emissions that are all included in its environmental permits. Required reduction plans are in place for priority chemicals.

It is ISO 14001 certified and as such has in place an understanding of the environmental aspects and impacts of its operations. These programs can also be driven by the results of MOC reviews and through the use of Responsible Care checklists.

Fundamental work is being done by the global organization in looking at legacy environmental issues as well as addressing VOC challenges.

Some examples of recent successes in this area are:

- Installation and start-up of a Thermal Oxidizer
- Significant reductions in methyl chloride, isoprene and isobutadiene emissions
- Replacing carbon steel heat exchanger tubes with stainless steel tubes
- Donation of wood to fire school
- Extraction of aluminum from aluminum gel

b. Handling, Treatment and Disposal of Wastes

The company has a long term program of demolition and remediation of former plant site facilities. The company and its predecessors have a long history at this site and many underutilized or abandoned buildings and structures remain. Some 60 of these have been demolished over the last three years to the benefit of removing energy consumers, asbestos and other designated substance and generally reducing maintenance costs and greatly improving housekeeping and the look of the facility.

There is a “Journey to Net Zero Waste” program in place with a five-year goal. Current successes include:

- 37% reduction in waste generation since 2013
- A 50% reduction in waste costs
- Reuse of a spent NaOH stream for neutralization that was previously sent to a waste handler.

Successful Practice

- Journey to Net Zero Waste program.

2.1.5 Resource Conservation

Reference RCMSM 4.7.4 Energy

Automation for the cooling towers and blowers as well as the use of steam turbines to run the service water pump house are examples which have contributed to the reduction of electricity use by 95%.

2.1.6 Promotion of Responsible Care by Name

Reference RCMS 4.7.11.5

The Canadian president meets with all new employees (salaried, hourly and contractors) for two hours to lay out expectations, open the door for dialogue and to emphasize the company’s commitment to Responsible Care.

The company has a very visible permanent RC logo on its front gate.

2.2 Team Observations Concerning Stewardship Code

Reference RCMSM 4.7.8

2.2.2 Expectations with Respect to Other Parties (115-124)

The company utilizes one external warehouse where food grade product is stored and shipped. This is a highly regulated operation and there have been no issues with its use.

There is a detailed contractor selection process in place which satisfies Responsible Care code requirements.

The company ships two bulk liquid hazardous materials and endeavours to minimize the risk of shipments by, in the case of 1,3 butadiene, organizing a swap of material with a competitor. This is a process that allows material from Sarnia destined for Texas to be shipped, instead, to the competitor’s customers in the northern US while the competitor’s material sourced in Texas is shipped to ARLANXEO’s customers in the southeast.

The process dealing with customers is well used but not documented.

Finding Requiring Action

- Document the Customer Management Process (Selection, prior to first shipment, ongoing management) for C4 Olefins hazardous products

2.3 Team Observations Concerning Accountability Code

2.3.1 Operating Site Communities (125-136)

Reference 4.1.11 Communication and Outreach. (The team would prefer the choice of the word *dialogue* in place of *communicate* as it specifies the two-way nature of the Responsible Care intent. The team acknowledges 4.7.11 does specify 'to and from' communication but feels dialogue is a stronger word.)

The process has many parts but two were looked at closely by the team. These were the identification of and communication with near neighbours and the externally facilitated community advisory panel (CAP).

As a follow up to the last verification the company has identified its near neighbours and has endeavoured to engage them in dialogue related to its operations. This has been met with a large degree of success. However, a nearby industrial neighbour, notwithstanding an excellent working relationship, has been reluctant to share hazard information which could have an impact on the company. The team encourages the company to continue its efforts in the spirit of Responsible Care and for the safety and protection of its employees.

The team had a very valuable lunch discussion with the company's CAP whose membership is comprised of a diversity of backgrounds and experiences. During the discussions it was apparent that the members were committed to assisting the Sarnia site to use their expertise to assist the company to achieve its goals. The team observed a lack of clarity with regards to the expectations that the company had of its CAP members. Likewise, the CAP member's expected scope of involvement and active participation was unclear to the company.

Perhaps a richer familiarity with the Accountability Code may assist both parties to gain clarity of expectations. For example, during the tree planting project the CAP was not very involved, yet during the discussions with the team, the CAP presented opportunities that could have been explored. The CAP indicated an interest in reviewing outreach materials and newsletter prior to release. CIAC's SCOPE is an excellent resource for input from the members.

The company needs to decide whether consensus building exercises within the CAP is beneficial. Historically, most CAP's within CIAC thrive on diversity of opinions and do not require consensus. This diversity of opinions and options, sometimes even conflicting, can give companies full spectrum of options "on the table" for evaluation. It is important for the members to understand that their feedback is necessary, even if the company chooses against some or all of the recommendations.

A review of worst credible case scenario (WCCS), emergency exercises and the most appropriate audiences related to this topic should be a standard annual agenda item to ensure that the appropriate Responsible Care codes are covered.

Finding Requiring Action

- Worst Credible Case Scenarios (WCCS) must be communicated on a regular basis to the community (including CAP)

Opportunities for Improvement

- Use the Accountability Code as a discussion topic with the CAP
- Review/audit the terms of reference for CAP (compared with the codes of practice) and measure process performance
- Adopt the CIAC SCOPE for as one metric for community dialogue
- Seek ways to focus on dialogue with CAP

3. Team Observations on the Company Management System

It is a requirement of Responsible Care that companies have a documented, self-healing management system or systems capable of identifying and responding to deficiencies and otherwise supporting continual improvement across all company business units, functions, and sites and as a framework for implementing the Responsible Care Commitments.

The verification team studied ARLANXEO's management system(s) and compared and contrasted the attributes of that system(s) to those of a self-healing overall management system as discussed in the CIAC Management System Guide. The verification team's related observations to the company management system(s) are as follows:

The company has taken a unique approach to the development of its management system (Responsible Care Management System Manual - SOP-0649). It has combined its formal ISO 9001:2008 (quality, along with the automotive ISO TS16949 standard - although not certified to it) and ISO 14001:2004 (environmental) certifications, its approach to energy (using ISO 50001 - although not certified), CIAC Responsible Care (with all its included sub systems i.e. Product Stewardship) and ARLANXEO company directives into one overall comprehensive management system. This is quite a remarkable achievement, all the more so considering it is contained within a 35-page document.

All aspects of the aforementioned CIAC Management System Guide (specifically Plan, Do, Check and Act) are contained in SOP-0649 and it exceeds the team's Responsible Care implementation expectations for management systems.

For future verifications SOP-0649 should be the key document for review. It should be one of the first pieces of information forwarded to the team and should be the foundation of the Planning and Orientation meeting.

It is the team's expectation that when work processes are documented they will become a part of this management system to ensure they are known, followed, properly audited and subject to continuous improvement. An example of this would come from a finding in this report, specifically "*Document the Customer Management Process (Selection, prior to first shipment, ongoing management) for C4 Olefins hazardous products*".

There is a danger of slippage from the intent of the codes of practice over time that the company should attempt to avoid. Having internal assessments performed by code knowledgeable personnel and challenging the status quo is helpful in this situation.

Successful Practice

The company's Responsible Care Management system as described in SOP-0649.

Improvement Opportunity

Ensure there are code knowledgeable persons who assess the company's compliance to code requirements

4. Team Observations on the Responsible Care Ethic and Principles for Sustainability

Each CIAC member company is formally committed to the ethic of “*Doing the right thing, and being seen to do the right thing.*” This ethic, along with the principles for sustainability are expected to guide the company’s decision making and practices. In conducting the verification, the team is looking to understand how well the ethic is understood and adopted within the company, and the degree to which the principles inform the manner in which the company does its business.

The verification team carefully observed ARLANXEO's decision making processes and actions and compared and contrasted the attributes of those with the attributes of a company guided by the Responsible Care Ethic and Principles for Sustainability as discussed in the Responsible Care Commitments (Appendix E). The verification team’s related observations on the company’s application of the Responsible Care Ethic and Principles for Sustainability are as follows:

- work for the improvement of people’s lives and the environment, while striving to do no harm;
 - management reviews at least twice per year, looking for new technologies – reducing wastes,
 - improving work environment – ‘bringing it home’ program – new newsletter to support bringing it home – 3 yearly events including bring your kids to work (during which the CEO explains safety to kids)
 - Service award dinner
 - Yearend party & annual golf tournament (always do a RC message)
 - ‘Canstruction’ donated 1000 cans of food that were swapped for old furniture
 - first focus is "Do no harm"

- be accountable and responsive to the public, especially our local communities, who have the right to understand the risks and benefits of what we do;
 - CAP
 - participation in CIAC generally and locally with local tech groups
 - Work with local first nations – just for the dialogue
 - Work closely with Lambton College – future needs for technical employees
 - Improve quality of Fire School training to keep students in Ontario

- take preventative action to protect health and the environment;
 - influence fire school to provide Texas/Colorado type training
 - pursuing new technology in the Butyl Plant to replace hexane with a solvent that has 1/10 the impact
 - Influenced the adoption of waste incineration by CIAC
 - Testing additives to reduce scrap rubber (bigger crumbs, etc.)

- innovate for safer products and processes that conserve resources and provide enhanced value;
 - animal based to vegetable based source for steric acid
 - butadiene swap between Midland Michigan and Freeport Texas

- engage with our business partners to ensure the stewardship and security of our products, services and raw materials throughout their life-cycles;
 - distribution – single use steel crates
 - coming up to 10 years of annual awards from rail companies for safe shipping (only 2 others in North America at 10 years)

- understand and meet expectations for social responsibility;
 - employee committee for donations

- company match of employee donations to United Way
 - PAIRS program partner with local high school – Great Lakes Secondary School
 - training of employees on defibrillator units and purchase / installation of defibrillator units around the site
 - Adopt-a-Scientist program with Lambton-Kent District School Board
 - support for local college - Lambton College
 - donations of unused company assets to various organizations in the community
 - support of the local food bank – Inn of the Good Shepherd – through Canstruction
- work with all stakeholders for public policy and standards that enhance sustainability, act to advance legal requirements and meet or exceed their letter and spirit;
 - CIAC committees
 - Sarnia CVECO
 - Sarnia CAER
 - Sarnia-Lambton Environmental Association
 - Industrial Education Cooperative
- promote awareness of Responsible Care, and inspire others to commit to these principles.
 - Enshrined in the management system, section 4.7.11.5.

5. Verification Team Conclusion

As a result of the examination conducted, and in consideration of the observations communicated within this report, the verification team is of the opinion that the Responsible Care Ethic and Principles for Sustainability are guiding company decisions and actions, and that a self-healing management system is in place to drive continual improvement. The team believes that the company is capable of responding to the range of Findings Requiring Action identified during the verification - summarized below and discussed in detail in the report. The verification is complete and no further involvement is required by the verification team.

Company Response to Verification Team Report

On behalf of ARLANXEO I have reviewed this verification report. The observations and conclusions contained in the report have been discussed with the verification team.

I would like to thank the verification team for spending time at our site reviewing our operations and providing reasonable and fair feedback, both in this report and during the time spent with us on site. We appreciate the team members' diverse experience and skill sets and recognize the value this brings to an assessment of this nature. Of course we will address the Findings Requiring Action and certainly give consideration to the Improvement Opportunities in order to implement effective actions that will further improve our Canadian operations. As well, we will assist the CIAC in communicating and sharing the identified Successful Practices to other CIAC members.

ARLANXEO will communicate the results of the verification exercise with its CIAC peers at their next leadership meeting, and will discuss the verification results with our stakeholders, including those representing communities near our operating sites.

Our progress in implementing the Findings and Improvement Opportunities will be discussed when preparing our Annual Statement of Re-Commitment to Responsible Care, and communicated to the verification team at the time of our next verification.

Ubiratan Sa
Site Manager & President
ARLANXEO Canada Inc.
October 14, 2016

Interview Lists

A: Company Personnel Contacted During Verification Process

Name	Position	Location
Ubiraten Sa	Site Manager & President	Sarnia
Tim Knapp	Manager, HSEQ	Sarnia
Peter West	Manager, Butyl Manufacturing	Sarnia
Wes Moore	Manager, C4 / West Site Operations	Sarnia
Heather Michelin	Environmental Specialist	Sarnia
Ross White	Sustainability Coordinator	Sarnia
Katherine Down	Supervisor, Waste Operations	Sarnia
Jeff Murray	Safety Specialist	Sarnia
Florian Neumann	Supervisor, Emergency Services	Sarnia
Doug Sellars	Manager, Energy	Sarnia
David Knight	Manager, C4 Engineering	Sarnia
Mike Wise	Manager, Butyl Engineering	Sarnia
Jonathan Kwan	Project Engineer	Sarnia
Rob Pakvis	Manager, Site Maintenance	Sarnia
Kevin Devine	Manager, Butyl Maintenance	Sarnia
John Strampel	Manager, West Site Maintenance	Sarnia
Brian Matthews	Inspector	Sarnia
Kandarp Joshi	Manager, Procurement	Sarnia
Stephane Thiffeault	Senior Corporate Counsel	Sarnia
Steve Leblanc	C4 Account Manager	Sarnia
Susan Busby	Manager, BD Planning	Sarnia
Lisa Knight	Supervisor, Laboratory	Sarnia
John Kerr	C4 Operations Coordinator	Sarnia
Dave Shea	C4 Operations Technician	Sarnia
Jim Lukenda	Manager, Butyl Finishing	Sarnia
Lucy Shen	Waste Operations Environmental Engineer	Sarnia
Monique Deschenes	Manager, Supply Chain Canada	Sarnia
James Crockett	Supervisor, Warehouse	Sarnia
Leanne Biggar	Law Clerk	Sarnia

B: External Stakeholders Contacted During Verification Process

Name	Company / Organization	Location
Ralph Eyre	Farmer/Business Owner	Sarnia
Mary Jean O'Donnell	MJ Waste Solutions	Sarnia
Kathy Alexander	Bluewater Health Foundation	Sarnia
Randy Tate	Retired	Sarnia
Janet Doyle	Retired, part time SLWDB	Sarnia



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